

# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

### Hanger for Pipes, Electric Cables, Conduits and the like

We, ALAN HOWARD QUICK and RONALD CHARLES WARNER, trading in co-partnership as WALSALL GAUGE & TOOL CO., of 140B Wednesbury Road, Walsall, in the County of Stafford, both British Subjects, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention has reference to hangers for pipes, electric cables, conduits and the like and has for its primary object to provide a hanger for the support of pipes, electric cables, conduits and the like which is simple in construction and manner of usage which incorporates support means which are interchangeable and adjustable as required and which is capable of being produced at a relatively low cost.

Accordingly the invention consists of a hanger for pipes, electric cables, conduits and the like incorporating a "base" member which is adapted to be suspended from a fixture or fixed to a supporting surface and which is provided in its length with a plurality of spaced vertical straight sided elongated slots and individual support members each of which possesses an outwardly projecting portion of arcuate formation which continues in a rearwardly projecting portion which is capable of being seated within one or other of the slots as may be required and which has associated therewith an abutment means which is caused to take an abutment with the rear of the base member when under load at any position within the range of the depth of a slot.

The invention also consists of a hanger for pipes, electric cables, conduits, and the like as aforesaid in which additional members are provided which in general are of similar shape and configuration to the said support mem-

bers and in which the said additional members are adapted to be engaged with the base member in an inverted position relatively to support members already engaged therewith to provide in conjunction with the said support members a substantially circular recess for surrounding a pipe, electric cable, conduit or the like when supported by the support members and in which the said additional members and the support members are provided with outwardly directed tongues having therein holes which when the additional members are engaged with the base member in an analogous manner to the support members are disposed in superposed relationship with the holes in the respective tongues in register for the passage therethrough of the hasp of a padlock so that a pipe, electric cable, conduit or the like may be locked on the support member and may be displaced or removed therefrom only by those possessed of the appropriate key.

The invention also resides in hangers for pipes, electric cables, conduits and the like substantially as will be described hereinafter.

Embodiments of the invention will now be described with particular reference to the accompanying drawings which illustrate the invention in a form which is most appropriate for use in collieries and mine workings for supporting electric cables or conduits which frequently vary in number and dimensions and which are required to be interchanged from time to time.

In the drawings:—

Figure 1 is a perspective view of one form of hanger in accordance with the invention

Figure 2 is a side elevation of another form of hanger in accordance with the invention

Figure 3 is a fragmentary view illustrating the manner of engaging a support member with a base

Figure 4 is a perspective view of a support member shown separately

Figure 5 is a fragmentary view in perspective of a modified form of the invention in which provision is made for locking a pipe, electric cable, conduit or the like when supported in a support member if required, and

Figure 6 is a diagrammatic view illustrating the manner of engaging the locking member with the base.

In the drawings where appropriate like numerals of reference indicate similar parts in the several views.

Referring first to the embodiment of the invention as illustrated in Figures 1 and 4.

According to the said embodiment of the invention the hanger incorporates a base member 10 in the form of a strip or sheet of plate metal which is provided at the top with a hook 101 for suspension from a fixture 11. This base member 10 is provided with a plurality of equidistantly spaced vertical elongated slots 102.

Adapted to be supported with the assistance of any of these slots 102 are support members designated generically by the reference numeral 12 each of which incorporates an outwardly projecting section 121 of concave formation which continues at the rear in a neck 122 which in turn merges into an abutment section 123 of substantially the same length as the width of the base member 10. Each of the necks 122 aforesaid is of a width such that the support members 12 may be engaged with the base member 10 by first passing the abutment section 123 of a support member 12 through the appropriate slot 102 until the neck 122 is engaged within the slot 102 as is seen in Figure 3 and then turning the support member 12 through an angle of 90° so that the neck 122 is seated in the slot 102 with the abutment section 123 horizontally arranged and in abutment with the rear of the base member 10 and with the concave section 121 projecting forwardly for the reception of a pipe, electric cable or conduit as the case may be.

In the embodiments of the invention illustrated in Figure 2 the base member 10 is provided with top and bottom holes 103 for the passage of bolts and on the rear with protuberances 104 which serve as distance pieces to enable the abutment sections 123 to be accommodated when the base member is bolted in position to a fixture 11.

Separately formed distance pieces 104 could be used for a like purpose but for the applications for which the invention is primarily intended it is considered that the fewer loose parts the better.

In the embodiment of the invention as illustrated in Figures 5 and 6 there is provided in addition to the support members 12 additional members 13 hereinafter termed locking members 13 of like shape and configuration to the support members 12 aforesaid.

According to this embodiment of the invention the support members 12 and the locking members 13 are provided with outwardly projecting tongues 124, 131 respectively of similar dimensions each provided therein with a central hole 125, 132.

In use after a pipe, electric cable or conduit has been laid on the support members 12 and the support members retained in the support position a locking member 13 is engaged within the same elongated slot 102 as the relevant support member 12 with which it is required to co-operate except that the locking member 13 is inverted so that when the locking 13 falls onto the pipe, electric cable or conduit supported by the support member 12 the arcuate section 121 of the support member 12 and the arcuate section 133 of the locking member 13 embrace the supporting pipe, electric cable or conduit with the holes 125, 132 in the tongue 124 of the support member 12 and the tongue 131 of the locking member 13 in register whereupon the hasp 141 of a padlock 14 is passed through the holes 125, 132 and locked thereby preventing inadvertent removal or displacement of a supporting pipe, electric cable or conduit except by those possessed of a key.

Thus it will be appreciated that the use of locking members 13 is a deterrent to pilferage and in this connection it may be observed that although an electric cable or a section thereof could be pilfered by severage before this is attempted it becomes necessary to ensure that the electric cable is not live.

It will be appreciated that in all the embodiments of the invention support members 12 may be added as required to the full complement of the slots 102 in the base member 10 and that the position of a support member 12 may be altered within the range of the depth of a slot 102 if the dimensions of a pipe, cable conduit or the like to be supported thereby so requires.

The support members 12 and the locking members 13 conveniently are formed from strip metal which can readily be fashioned into the required shape as aforesaid.

Although the invention has been described as applied to the suspension of pipes, electric cables and conduits it is to be understood that hangers in accordance with the invention are suitable for the support of other elements such for example, as compressed air lines, telephone cables and ropes.

Hangers in accordance with the invention are robust and particularly suited for indoor or outdoor use.

#### WHAT WE CLAIM IS:—

1. A hanger for pipes, electric cables, conduits and the like incorporating a 'base' member which is adapted to be suspended from a fixture or fixed to a supporting surface and

which is provided in its length with a plurality of spaced vertical straight sided elongated slots and individual support members each of which possesses an outwardly projecting portion of arcuate formation which continues in a rearwardly projecting portion which is capable of being seated within one or other of the slots as may be required and which has associated therewith an abutment means which is caused to take an abutment with the rear of the base member when under load at any position within the range of the depth of a slot.

2. A hanger for pipes, electric cables, conduits and the like as claimed in claim 1 in which additional members are provided which in general are of similar shape and configuration to the support members aforesaid and in which the said additional members are adapted to be engaged with the base member in an inverted position relatively to support members already engaged therewith to provide in conjunction with the said support members a substantially circular recess for surrounding a pipe, electric cable, conduit or the like when supported by the support members and in which the said additional members and the support members are provided with outwardly directed tongues having therein holes which when the additional members are engaged with the base member in an analogous manner to the support members are disposed in superposed relationship with the holes in the respective tongues in register for the passage therethrough of the hasp of a padlock so that a pipe, electric cable, conduit or the like may be locked on the support member and may be displaced or removed therefrom only by those possessed of the appropriate key.

3. A hanger as claimed in either of the preceding claims incorporating a base member formed of a strip of sheet or plate metal which is provided at the upper end with a hook for engagement with a fixture for suspending the hanger as required.

4. A hanger as claimed in claims 1 and 2 in which the base member is in the form of a strip of sheet or plate metal which is provided with holes through the passage of bolts and which has associated with the holes distance pieces located at the rear for spacing the base member from a fixture.

5. A hanger as claimed in any one of the preceding claims in which the support members are formed from strips of sheet or plate metal and of which is provided with an outwardly projecting concave portion which continues at the rear in a neck of slightly smaller width than the width of the elongated slots in the base members and which neck merges into an abutment section of substantially the same width as the width of the base member whereby the support member may be engaged with the base member by turning the support member so that the abutment section may be passed through an elongated slot and then turning the support member through an angle of  $90^\circ$  so that the neck may be seated in the slot with the abutment section in abutment with the rear of the hanger.

6. A hanger as claimed in claim 2 in which each locking member is formed from strips of sheet or plate metal and incorporates an outwardly projecting convex section which continues at the rear in a neck of a width slightly less than the width of the elongated slot and which merges into an abutment section of substantially the same width as the width of the base member said locking member being adapted to be engaged with the base member in an inverted position relatively to a support member with which it is to co-operate.

7. A hanger for pipes, electric cables, conduits and the like constructed, arranged and adapted for use substantially as described herein with reference to Figures 1, 3 and 4 of the accompanying drawings.

8. A hanger for pipes, electric cables, conduits and the like constructed, arranged and adapted for use substantially as described herein with reference to Figure 2 of the accompanying drawings.

9. A hanger for pipes, electric cables, conduits and the like constructed, arranged and adapted for use substantially as described herein with reference to Figures 5 and 6 of the accompanying drawings.

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2 SHEETS

FIG.1.

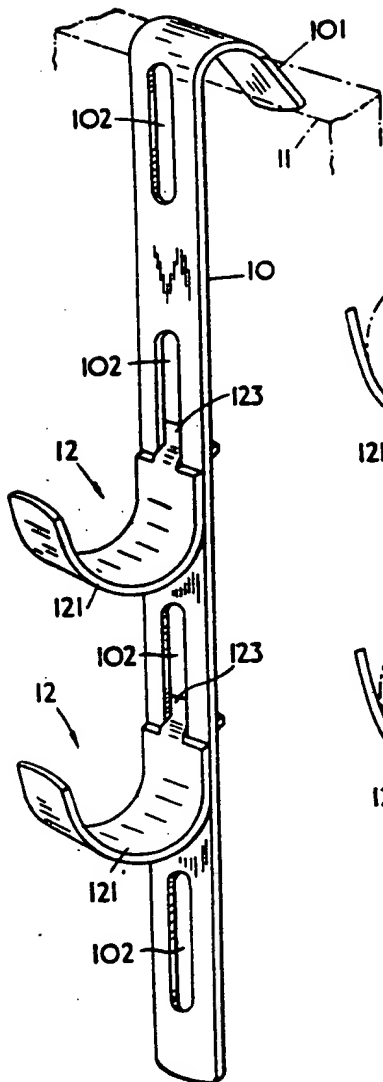


FIG.2.

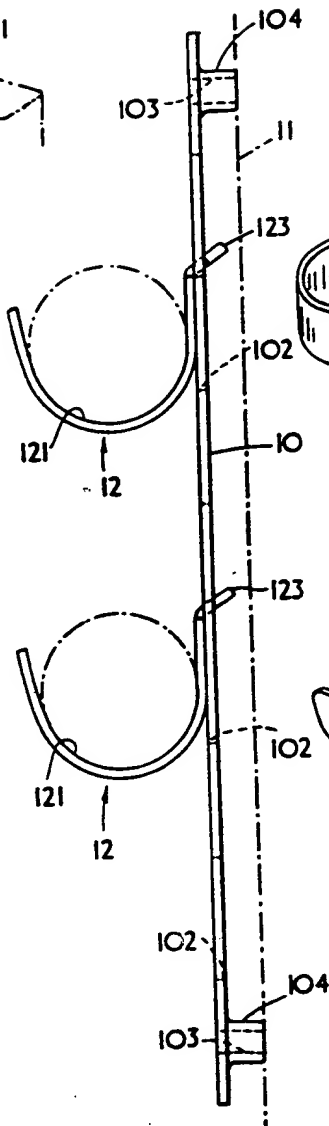


FIG.3.

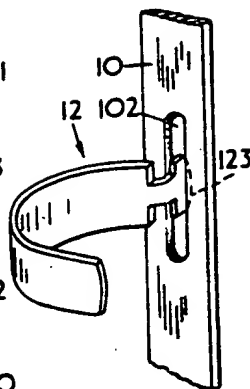


FIG.4.

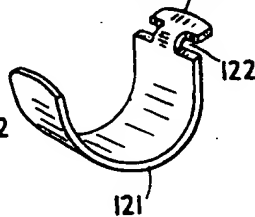


FIG.5.

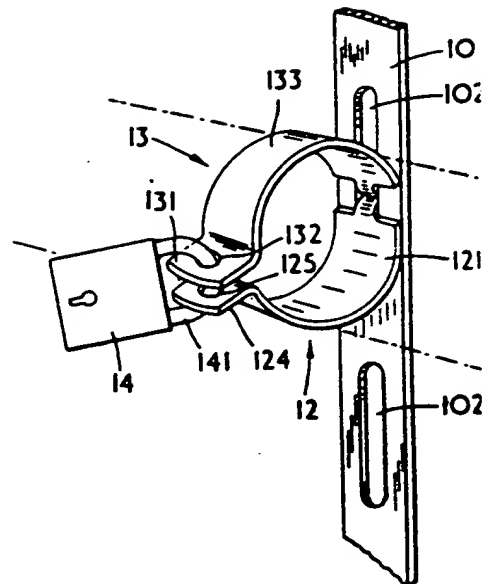


FIG.6.

